

**Notice of Allowability**

Application No.

10/665,657

Applicant(s)

HOSHI ET AL.

Examiner

Delma R. Flores Ruiz

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/18/2003.
2. ☒ The allowed claim(s) is/are 5-8.
3. ☒ The drawings filed on 18 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10/20/03; 5/10/04 5/10/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Allowable Subject Matter***

Claims 5 – 8 are allowed.

The following is an examiner's statement of reasons for allowance: Claim 5 recites a method for fabricating a semiconductor laser device structure including the specific structure limitation of "forming an insulating film on the entire surface of the substrate including the wall plane of a pit-like recess penetrating the current blocking layer and extending toward the compound semiconductor substrate, forming a photoresist film on the entire surface of the substrate, patterning the photoresist film to form a resist mask on the insulating film as well as to fill the pit-like recess with the photoresist film" which is neither anticipated or disclosed nor suggested in any piece of available prior art, which is neither anticipated nor obvious over the prior art of record.

The following is an examiner's statement of reasons for allowance: Claim 6 recites a method for fabricating a semiconductor laser device structure including the specific structure limitation of "etching the contact layer and the upper cladding layer to from a mesa-structure portion having a ridge stripe pattern and forming

an insulating film on the entire surface of the substrate including the wall plane of a pit-like recess penetrating the current blocking layer and extending toward the compound semiconductor substrate, and then removing the insulating film from an area other than the wall plane of the pit-like recess” which is neither anticipated or disclosed nor suggested in any piece of available prior art, which is neither anticipated nor obvious over the prior art of record.

The following is an examiner’s statement of reasons for allowance: Claim 7 recites a method for fabricating a semiconductor laser device structure including the specific structure limitation of “etching the contact layer and the upper cladding layer to from a mesa-structured portion having a ridge stripe pattern, and selectively growing, using an insulating film mask, a current blocking layer with a low carrier density thereby to bury the both sides of the mesa-structured portion and a pit-like recess extending towards the compound semiconductor substrate, and the removing the insulating film mask to exposed the contact layer” which is neither anticipated or disclosed nor suggested in any piece of available prior art, which is neither anticipated nor obvious over the prior art of record.

The following is an examiner’s statement of reasons for allowance: Claim 8 recites a method for fabricating a semiconductor laser device structure including the specific structure limitation of “selectively growing, using an insulating film mask, a

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current blocking thereby to bury the both sides of the mesa-structured portion and removing the insulating film mask to exposed the contact layer and forming a resist pattern on the contact layer, and performing ion implantation to the entire surface of the substrate thereby to convert the outermost surface of the wall plane of the pit-like recess penetrating the current blocking layer and extending toward the compound semiconductor substrate into layer with a higher resistivity" which is neither anticipated or disclosed nor suggested in any piece of available prior art, which is neither anticipated nor obvious over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Delma R. Flores Ruiz  
Examiner  
Art Unit 2828



Min Sun Harvey  
Supervisor Patent Examiner  
Art Unit 2828

DRFR/MH  
February 17, 2005